

# CITY OF SUNNYVALE 2006 WATER QUALITY REPORT

We are proud to report that the water provided by the City of Sunnyvale continues to meet established water quality standards. The City is required to test water quality over the course of each year, and the California State Department of Health Services requires us to distribute to all City customers an annual report on water quality. This report provides our customers with important information on the City's water supply sources and water quality testing.

In this report you will find important information, including a description of

contaminants that may be present in source water. Inside, you will find the results of water quality testing performed in 2006 showing concentrations of various contaminants relative to health and aesthetic standards.

The bottom line: testing shows that the water provided by the City of Sunnyvale meets established

water quality standards. The City is pleased to present this report to you and welcomes any comments you may have regarding the information contained in it. Please feel free to contact Val Conzet, Public Works Supervisor, at (408) 730-7510, TDD (408) 730-7501or by e-mail at vconzet@ci.sunnyvale.ca.us.

### **CITY'S WATER SOURCES**

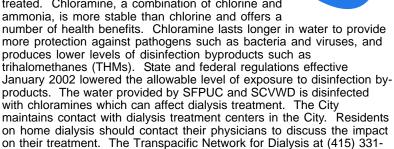
Approximately 87 percent of the water provided by the City to our customers during a normal year is treated surface water. The remaining 13 percent is ground water pumped from nine City-owned and operated wells, and recycled water for some landscape and industrial customers.

The surface water comes from two sources. The Sunnyvale Water Program manages the delivery of San Francisco Public Utilities Commission (SFPUC) water from six delivery points located along their transmission pipeline, which runs through the northern part of the City. Eighty-six percent of SFPUC's water originates in the Hetch-Hetchy Reservoir located in Yosemite National Park, and the other 14 percent comes from the Calaveras or San Antonio reservoirs in the Alameda Creek watershed. About 42 percent of Sunnyvale's total water supply comes from the SFPUC.

The Sunnyvale Water Program also receives water from the Santa Clara Valley Water District (SCVWD) through connections in the southern part of the City. SCVWD obtains water from several sources, including the Sacramento/San Joaquin Delta and Anderson and Calero reservoirs, and treats the water at their Rinconada Treatment Plant in Los Gatos. About 45 percent of Sunnyvale's total water supply comes from the SCVWD.

# DISINFECTION (Chloramine/Chlorine/Ammonia)

Sunnyvale residents should know that the water in the Sunnyvale system includes water treated with chloramine and well water that is tested but not treated. Chloramine, a combination of chlorine and ammonia, is more stable than chlorine and offers a



1545 can provide more information about chloramines and dialysis. Fish and aquarium owners should check with their local pet stores to make sure they are using the correct equipment for chloramine removal of any concentration.

#### **HEALTH INFORMATION**

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the U.S. Environmental Protection Agency's (USEPA) Safe Drinking Water Hotline at (800) 426-4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as those undergoing chemotherapy or who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly and infants can be particularly at risk from infections. These people should seek advice from their health care providers about drinking water.

USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

#### **FLUORIDATION**

The SFPUC completed construction on the new, system-wide fluoridation facility in 2005. Beginning November 2005 all water from the SFPUC is fluoridated. However, the City's other wholesale water provider (SCVWD) has no plans to fluoridate its water, and the City does not fluoridate well water. As a result, some areas of Sunnyvale receive fluoridated water, other areas receive nonfluoridated water, and some areas receive a mixture of fluoridated and non-fluoridated water. An explanation and a map showing the different areas were sent to all customers. This information is also available on the City's website. If you would like more information please contact the Water Program at (408) 730-7510.

#### **IMPORTANT CONTACTS**

Informed consumers are our best allies in maintaining safe drinking water. If you are interested in water information and decisions being made relative to new regulations, information is available on the Internet.

Water Quality 7 a.m. - 4:30 p.m. (408) 730-7510

**Utility Billing 8 a.m. – 5 p.m.**Residential (408) 730-7400
Commercial (408) 730-7681

Backflow and Cross Connection Control Program 7 a.m. - 4:30 p.m. (408) 730-7574

TDD (408) 730-7501

City of Sunnyvale www.sunnyvale.ca.gov

California Dept. of Health Services (CDHS) www.dhs.ca.gov/ps/ddwem/ default.htm

U.S. Environmental Protection Agency (EPA) (800) 426-4791 www.epa.gov/ogwdw/

Dept. of Water Resources (DWR)

www.dwr.water.ca.gov/

To learn more about emergency preparednes for yourself and your family, visit www.oes.insunnyvale.com

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alquien que lo entienda bien.

Mahalaga ang impormasyong ito. Mangyaring

此份有关你的食水报告,内有重要资料和讯息 他人为你翻译及解释清楚。

Chi tiết này thật quan trọng. Xin nhờ người dịch cho quý vị.

# City of Sunnyvale 2006 Water Quality Report

ORGANIC CHEMICALS Total Trihalomethanes (TTHM)<sup>(13)</sup>

INORGANIC CHEMICALS

Chloramine

Total Haloacetic Acids (HAA5)(13)

# 2006 Water Quality Test Results for Water Provided by the City of Sunnyvale (1)

## ALL RESULTS MET STATE AND FEDERAL WATER REGULATIONS

### How to Read this Chart

ppb

ppm

60

MRDL=4.0

as CL

N/A

The first column, labeled "Standards," lists the standards for various water quality parameters and limits such as arsenic, perchlorate, MTBE, etc., are not listed on the chart.

46.1

13.9 - 29.0

39.8

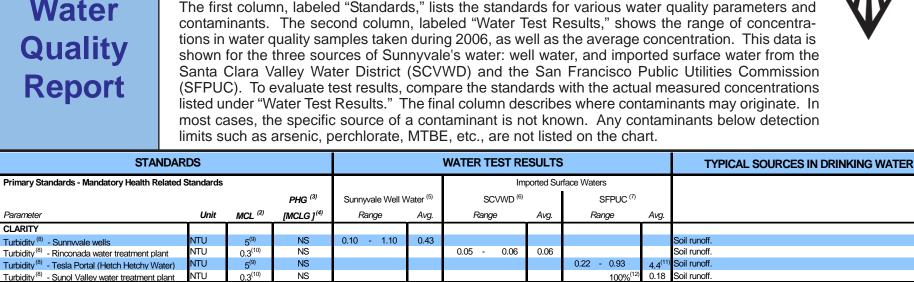
21.6

22.0 - 57.0

8.0 - 45.0

38.0 By-product of drinking water chlorination.

25.0 By-product of drinking water chlorination.



ND

N/A - N/A

ND

N/A

Aluminum	ppm	1	0.6	ND - ND	ND	ND - ND	ND	<50 - 71	<50	Erosion of natural deposits.
Barium	ppm	1	2	ND - 0.1	0.2	ND - ND	ND	n/a n/a	n/a	Erosion of natural deposits.
Fluoride <sup>(14)</sup>	ppm	2	1	0.1 - 0.2	0.1	ND - ND	ND	0.1 - 1.5	1.0	Erosion of natural deposits. Water additive that promotes strong teeth.
Nitrate + Nitrite as N	ppm	10	10	2.3 - 7.4	4.5		n/a		n/a	Runoff and leaching from fertilizer use. Erosion of natural deposits.
Nitrate as NO3 (15)	ppm	45 (as	45 (as nitrate)	9.0 - 34.6	19.6	ND - 4	4	0.20 - 0.70	0.45	Runoff and leaching from fertilizer use, erosion of natural deposits.
		nitrate)	10 (as nitrogen)							Health Note: Infants below the age of six months who drink water
		10 (as	, ,							containing nitrate in excess of the MCL may become seriously ill and, if
		nitrogen)								untreated, may die. Symptoms include shortness of breath and blueness of
		,								the skin.
RADIONUCLIDES										
Gross Alpha	pCi/L	15	[0]	<3 - <3	<3	ND - ND	ND		n/a	Erosion of natural deposits.
Gross Beta <sup>(16)</sup>	pCi/L	50	[0]	<3 - <3	<3		n/a		n/a	Decay of natural and man-made deposits.
Radium - 226	pCi/L	20	n/a	n/a - n/a	n/a	ND - ND	ND			Erosion of natural deposits.
Radium - 228	pCi/L	20	n/a	<1 - <1	<1	ND - ND				Erosion of natural deposits.
	<u>=</u>	_	=	-	-			-	_	
Secondary Standards - Aestetic Standards							•	rface Waters		
			PHG (3)	Sunnyvale Well V	/ater (5)	SCVWD (6)		SFPUC (7)		
	Unit	MCL (2)	[MCLG] (4)	Range	Avg.	Range	Avg.	Range	Avg.	
PHYSICAL PARAMETERS										
Color	Units	15	N/A	<3 - 5	<3	<2.5 - <2.5	<2.5	<5 - 10	<5	Naturally-occurring organic materials.
Odor - Threshold	Units	3	N/A	1.0 - 1.0	1.0	1 - 1	1			Naturally-occurring organic materials.
Chloride	ppm	500	N/A	31 - 72	46.40	10 - 74	44	3 - 22	12	Runoff/leaching from natural deposits; seawater influence.
Copper	ppm	1	0.17	<0.05 - <0.05	< 0.05	ND - ND	ND			Internal corrosion of household plumbing systems; erosion of natural
										deposits; leaching from wood preservatives.
Foaming Agents	ppb	500	N/A	<0.05 - 0.05	< 0.05	<0.05 - <0.05	< 0.05		n/a	Municipal and industrial waste discarges.
Sulfate	ppm	500	N/A	21 - 40	32	48.9 - 56.8	52.6	0.8 - 44	20	Runoff/leaching from natural deposits; industrial wastes.
Total Dissolved Solids	ppm	1000	N/A	400 - 512	433.00	148 - 294	231	20 - 190	112	Runoff/leaching from natural deposits.
Specific Conductance	µmhos	1600	N/A	583 - 815	681	344 - 514.0	424	24 - 376	195	Substances that form ions when in water; seawater influence.
ADDITIONAL CONSTITUENTS										
pH	Units	N/A	N/A	7.5 - 7.7	7.6	7.4 - 7.7	7.5	7.6 - 9.7	8.9	
Hardness (as CaCO3)	ppm	N/A	N/A	270 - 360	310	82 - 119	99	7 - 145	66	
Alkalinity (as CaCO3)	ppm	N/A	N/A	215 - 258	237	71 - 116	84	6 - 114	58	
Boron	ppm	N/A	AL=1.0	0.14 - 0.20	0.19	ND - 0.16	0.14	ND - 0.16	<0.1	
Magnesium	ppm	N/A	N/A	20 - 33	25	10 - 13	12	<0.2 - 11.5	6.3	
Potassium	ppm	N/A	N/A	1.1 - 1.6	1.3	1.7 - 3.2	2.4	0.2 - 1.8	1	
Sodium	ppm	N/A	N/A	22 - 39	29	27 - 57	43	2 - 27	14.3	
Calcium	ppm	N/A	N/A	64 - 99	83	18 - 28	21	3 - 27	15	
Silica	ppm	N/A	N/A		n/a	9 - 13	12	3.8 - 7.2	6.3	
Radon	pCi/L	N/A	N/A	280 - 530	396		n/a		n/a	
Vanadium	ppb	N/A	AL=50	ND - 0	0	ND - 4	4		n/a	
Chromium (Hexavalent)	nnh	N/A	Ν/Δ	0 - 3	2	-11	-1		n/a	

it MCL <sup>(2)</sup> t AL <sup>(17)</sup> n AL=1,3 <sup>(18)</sup>	PHG <sup>(3)</sup> [MCLG] <sup>(4)</sup>	Range	90th Percentile	Typical Sources in Drinking Water
	0.17			
n AI =1 3 <sup>(18)</sup>	0.17			
	0.17	ND - 0.43	0.279	Corrosion of household plumbing systems.
AL=15 (19)	2	ND - 11	2	Corrosion of household plumbing systems.
it MCL (2)	PHG <sup>(3)</sup> [MCLG] <sup>(4)</sup>	Range	Ava.	Typical Sources in Drinking Water
		. J	3	, and the second
o 80	N/A	23.7 - 59	44.1	By-product of drinking water chlorination.
60	N/A	6.8 - 41	25.1	By-product of drinking water chlorination.
m MRDL = $4$ (as C	$Cl_2$ ) MRDLG = 4 (as $Cl_2$ )	1.7 - 2.1	1.95	Disinfectant added for treatment.
	mit MCL (2) 0b 80 0b 60	### PHG (3)   [MCLG] (4)	PHG <sup>(3)</sup> [MCLG] <sup>(4)</sup> Range  80 N/A 23.7 - 59 80 N/A 6.8 - 41	PHG <sup>(3)</sup> [MCL <sup>(2)</sup> [MCLG] <sup>(4)</sup> Range Avg.  N/A 23.7 - 59 44.1 N/A 6.8 - 41 25.1

- (1) Set forth in 40 CFR Part 141 and 142 National Primary Drinking Water Regulation and California Code of Regulations, Title 22, Section 116470.
- (2) Maximum Contaminant Level established by U.S. EPA/CA DHS.
   (3) Public Health Goal established by California Office of Environmental Health Hazard Assessment.
   (4) Maximum Contaminant Level Goal established by the Environmental Protection Agency.
- (5) Sunnyvale Municipal Wells (groundwater).
  (6) Santa Clara Valley Water District (Rinconada Water Treatment Plant).
  (7) San Francisco Water Department (Hetch-Hetchy).
- (8) Turbidity is the water clarity indicator and standards are set per Treatment Technique or Source Water Type.
- (9) The turbidity standard for unfiltered water supplies is 5 NTU.
- (10) Filtered water turbidity must be less than 0.3 NTU 95% of the time. The SFPUC and SCVWD met this standard 100 % of the time.

  (11) This is a single, maximum measurement. The elevated turbidity was caused by the startup of the Hetch-Hetchy Aqueduct after shutdown for maintenance work. Turbid water was not served to customers.
- (12) This is the minimum percentage of time that the filtered water turbidity was equal to or less than 0.3 NTU.(13) 4-Quarter running average of TTHMs and HAA5 in Sunnyvale's water supply system.
- (14) SFPUC supplies fluoridated water.
  (15) Federal MCLG is 10 mg/L for Nitrate as Nitrogen.
  (16) Effective 6/11/06 the gross beta particle activity MCL is 4 millirem/year annual dose equivalent to total body or any internal organ.
  50pCi/L is used as a screening level.
- (17) Action Level (AL). The 90th percentile of lead or copper must be below the action level.
- (18) In 2004, 0 out of 50 residences were over the action level
- (19) In 2004, 0 out of 50 residences were over the action level. (20) Coliform by Absence/Presence Method.

## ADDITIONAL COMMENTS OR NOTATIONS.

In accordance with DHS regulations, in 2006 the SCVWD monitored water guality for both source and treated water supplies, and in all cases has met the required limits. For additional information, contact the District at (408) 265-2600 or visit their web site at www.scvwd.dst.ca.us.

In accordance with DHS regulations, in 2006 SFPUC monitored water quality for both source and treated water supplies, and in all cases has met the required limits. For additional information, call the SFPUC Water Quality Bureau at (650) 972-5950 or visit their web page at www.ci.sf.ca.us/puc

In accordance with DHS regulations, in 2006 the City of Sunnyvale monitored water quality for its source water supplies, and in all cases has met the required limits. For some contaminants the State allows us to monitor less than once per year due to the fact that these contaminants do not change frequently

# SUNNYVALE DEPARTMENT OF PUBLIC WORKS — P.O. BOX 3707, SUNNYVALE CA 94088-3707

# Abbreviations and Units

NTU = Nephelometric Turbidity Unit

NS = No Standard ND = None Detected

n/a = Note Detected
n/a = Not Available
ppm = parts per million (milligrams per liter)

µmhos/cm = Micromhos/centimeter

pCi/L = picoCuries/liter (a measure of radioactivity)

powle = picocuries/inter (a ineastre of radioac % pos = % positive ppb = parts per billion (micrograms per liter) MFL = Million fibers per liter

MRDL = Maximum Residual Disinfectant Level
MCL = Maximum Contaminant Level

AL = Concentration of contaminant, if exceeded triggers treatment or other requirement TT = Treatment Technique

N/A = Not Applicable

# IMPORTANT DEFINITIONS FOR UNDERSTANDING THIS REPORT:

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

Maximum Contaminant Level Goal (MCLG): The level of contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.

Maximum Residual
Disinfectant Level (MRDL):
The level of a disinfectant
added for water treatment that
may not be exceeded at the
consumer's tap.

Maximum Residual
Disinfectant Level Goal
(MRDLG): The level of
disinfectant added for water
treatment below which there is
no known or expected risk to
health. MRDLGs are set by the
U.S. Environmental Protection
Agency.

Public Health Goal (PHG): The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

Primary Drinking Water Standard (PDWS): MCLs for contaminants that affect health, along with their monitoring and reporting requirements, and water treatment requirements.

Regulatory Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.

Variances and Exemptions: State or EPA permission not to meet an MCL or a treatment technique under certain conditions. The City of Sunnyvale has no variance or exemptions for MCLs.

Waiver: State permission to decrease the monitoring frequency for a particular contaminant.



### INFORMATION ABOUT THE DRINKING WATER SOURCE ASSESSMENT PROGRAM

The City has completed a Drinking Water Source Assessment Program (DWSAP) for the groundwater sources. The DWSAP was completed in January 2003, and submitted to the California Department of Health Services at that time. A copy of the DWSAP may be viewed by appointment at the City's Corporation Yard, 221 Commercial St., Sunnyvale. You may request a summary of the individual assessments by contacting the Water Utility Program at (408) 730-7510. The City's groundwater sources are considered most vulnerable to contamination by leaky underground tanks containing fuel or dry-cleaning chemicals, sewer collection systems, old septic systems, and machine shops. The City owns and operates nine (9) deep wells, and no contaminants were detected in the 2006 test results. A summary of the City's DWSAP can be found at <a href="http://swap.ice.ucdavis.edu/tsinfo/tsintro.asp.">http://swap.ice.ucdavis.edu/tsinfo/tsintro.asp.</a>

### CONTAMINANTS THAT MAY BE PRESENT IN SOURCE WATER INCLUDE:

**Microbial Contaminants**: such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.

Cryptosporidium and Giardia are parasitic microbes found in most surface-water supplies that can pose a potential health threat. If any of these microbes is ingested, symptoms may include diarrhea, stomach cramps, upset stomach, and slight fever. People with severely weakened immune systems, such as those identified previously, are likely to have more severe and persistent symptoms than healthy individuals, including complications that can become life-threatening. We encourage immuno-compromised individuals to consult their doctors regarding appropriate precautions to take to avoid infection.

The SFPUC and the SCVWD regularly test for Cryptosporidium and Giardia in both source and treated water supplies serving the East Bay, South Bay, and San Francisco Peninsula. Both Cryptosporidium and Giardia have occasionally been found at very low levels. Current test methods do not allow us to determine with certainty if the microbes are dead or if they are capable of infecting humans.

Inorganic Contaminants: such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

Organic Chemical Contaminants: including synthetic and volatile organics, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, agricultural application and septic systems.

Radioactive Contaminants: that can be naturallyoccurring or the result of oil and gas production and mining activities.

**Pesticides and Herbicides:** that may come from a variety of sources such as agricultural, urban storm water runoff and residential uses.

In order to ensure the tap water is safe to drink, USEPA and the California Department of Health Services (CDHS) prescribe regulations to limit the amount of certain contaminants in water provided by public water systems. CDHS regulations also establish limits for contaminants in bottled water to provide the same protection for public health

**Nitrate**: nitrate in drinking water at levels above 45 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water

can cause blue-baby syndrome. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in serious illness; symptoms include shortness of breath and blueness of the skin.

Nitrate levels above 45 mg/L may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with specific enzyme deficiencies. If you are caring for an infant or you are



pregnant, you should ask for advice from your health care provider.

Radon: Radon is a radioactive gas that you can't see, taste or smell. It is found throughout the U.S. Radon can move up through the ground and into a home through cracks and holes in the foundation. Radon can build up to high levels in all types of homes. Radon can also get into indoor air when released from tap water from showering, washing dishes, and other household activities. Compared to radon entering the home through soil, radon entering the home through tap water will, in most cases, be a small source of radon in indoor air. Radon is a known human carcinogen. Breathing air containing radon can lead to lung cancer. Drinking water containing radon may also cause increased risk of stomach cancer. If you are concerned about radon in your home, you can arrange for inexpensive and easy air quality testing. If the level of radon in your air is 4 picocuries per liter of air (pCi/L) or higher, you should fix the problem. For additional information, contact the State radon program or call EPA's Radon Hotline at (800) SOS-RADON.

#### **PUBLIC PARTICIPATION**

If you are interested in providing input on decisions that affect drinking water quality, any member of the public can speak on any issue specifically coming before the Council at a regularly scheduled City Council meeting, or on any topic you wish to bring to the Council's attention under the Citizens to be Heard portion of the agenda. You also can send a letter in advance of a meeting. City Council meetings are held Tuesday nights at 7:00 p.m. in the City Hall Council Chambers, 456 W. Olive Ave., Sunnyvale. A list of City Council meetings, agenda items, and study issues is available on the City's Web site at <a href="https://www.sunnyvale.ca.gov">www.sunnyvale.ca.gov</a> or by calling the City Clerk's office at (408) 730-7483.